ABSTRACT OF THE DISCLOSURE

Receiver-initiated collision avoidance methods for use in ad-hoc wireless networks in which carrier sensing is available. A number of protocol variants are described including RIMA-SP (simple polling), RIMA-DP (dual-purpose polling), and RIMA-BP (broadcast polling). These handshake methods according to the invention are capable of correctly avoiding collisions within a network that contains hidden nodes, and the RIMA-DP protocol provides higher performance levels than attainable with existing handshaking protocols within the ad-hoc wireless networks. The use of dual-purpose polling allows a control packet to be sent which has alternative functions, such as requesting data from the polled node, if available, and if not available then providing a transmission request from the polling node to send data to the polled node.